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November 1997

EPA Superfund
Explanation of Significant Difference for the Record of Decision:

Industrial Lane,
Williams Township, PA
12/5/1996

EXPLANATION OF SIGNIFICANT DIFFERENCES
INDUSTRIAL LANE SUPERFUND SITE

I. INTRODUCTION

Site Name: Industrial Lane Superfund Site

Site Location: Williams Township, Northampton County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III ("EPA")

Support Agency: Pennsylvania Department of Environmental Protection ("PADEP") (formerly the Pennsylvania Department of Environmental Resources)

Statement of Purpose

EPA issued a Record of Decision ("ROD") for operable unit 2 ("OU2") of the Industrial Lane Superfund Site ("Site") on March 29, 1991. This Explanation of Significant Differences ("ESD") is issued in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9617(c), and Section 300.435 (c)(2)(i) of the National Oil and Hazardous Substance Pollution Contingency Plan ("NCP"), 40 C.F.R. § 300.435(c)(2)(i). EPA is required to publish an explanation of significant differences if the remedial action taken at a site differs significantly from the remedy selected in a Record of Decision, and such differences significantly change, but do not fundamentally alter, the remedy selected in the Record of Decision with respect to scope, performance, or cost. This ESD has been prepared to provide the public with an explanation of the nature of the changes made to the selected remedy for the cleanup of contaminated ground water identified in the ROD for OU2, to summarize the information that led to the making of the changes, and to demonstrate that the revised remedy complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. The remedy changes do not fundamentally alter the remedy or performance of the remedy, and therefore a ROD amendment is not required. This ESD is incorporated into the Administrative Record file for the Site. The location of the Administrative Record file is set forth in Section VI of this ESD.

II. SUMMARY OF THE SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The Site is located in Williams Township, Northampton County, Pennsylvania, approximately 1 mile southwest of the center of south Easton (Attachment 1). Although the Site is

listed as Industrial Lane on the National Priorities List ("NPL"), it is located on Industrial Drive. The Site, which encompasses approximately 30 acres, borders on the city limits of Easton, and is located approximately 15 miles east of Allentown. The Lehigh River and Lehigh Canal are located to the northwest of the Site. The communities of Glendon Borough and Lucy's Crossing are located west and southwest of the Site, respectively. Morgan Hill is situated to the east and south of the Site. The area population has been estimated at approximately 550 persons.

The Site includes the inactive portion of a sanitary landfill called the Chrin Brothers Landfill. The Chrin Brothers Landfill began operating in 1961 and gradually expanded. In 1975, the Pennsylvania Department of Environmental Resources ("PADER") issued a permit for the landfill as a natural renovation sanitary landfill that was approved to receive municipal solid waste. No liner was required, and industrial wastes were not to be accepted without prior PADER approval. By 1980, the landfill had expanded to 30 acres. Disposal of wastes in this unlined area ceased in 1986. PADER issued a permit in 1986 for a 10-acre expansion of the Chrin Brothers Landfill. The expansion area has been developed east of the unlined landfill and includes a liner and leachate collection system. This operating, lined landfill continues to accept wastes for disposal, and the Chrin Brothers Landfill has received approval to further expand the lined landfill area.

EPA proposed the Site (the inactive, unlined portion of the landfill and the adjacent areas under which contaminated ground water has migrated) for the NPL in 1983 after contamination was found in local wells. The Site was placed on the NPL in 1984. A Remedial Investigation/Feasibility Study ("RI/FS") was completed in 1986 pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604. The RI/FS revealed that there is a plume of ground water contamination beneath the Site consisting primarily of volatile organic compounds. On September 29, 1986, EPA issued a ROD for operable unit 1 ("OU1") at the Site, which addressed the threat to human health in the area from drinking contaminated ground water. The remedy under the ROD for OU1 consisted of connecting numerous private well users in Lucy's Crossing and Glendon Borough to existing water mains belonging to the Easton City Suburban Water Authority. This remedial action was completed by EPA in 1988.

On March 29, 1991, EPA issued the ROD for OU2, which addressed contaminated ground water at the Site. The selected remedy set forth in the ROD for OU2 included the following components:

1. Closure of the inactive, unlined portion of the landfill;

2. Ground water extraction and treatment, and discharge of treated ground water to the Lehigh River; and

3. Long-term monitoring of the landfill closure and the ground water extraction and treatment system.

III. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

EPA has determined that certain changes in the remedy set forth in the ROD for OU2 are warranted. These changes are significant changes as defined in Section 300.435(c)(2)(i) of the NCP, 40 C.F.R. § 300.435(c)(2)(i); therefore, preparation of this ESD is required. A ROD Amendment is not required because the changes do not fundamentally alter the selected remedy.

A. Description of the Changes

1. Cap

The ROD for OU2 specified that the inactive, unlined portion of the landfill should be closed according to the closure requirements of Chapters 271 and 273 of the Pennsylvania Municipal Waste Management Regulations (25 PA. Code Chapters 271 and 273). Section 273.234 of the regulations requires an impermeable cap of clay or synthetic membrane over the entire surface of any applicable landfill closed after April 9, 1988. In the ROD for OU2, this requirement was applied to the unlined portion of the landfill at the Site. This was based on the intention of the landfill owner at that time to operate the unlined portion of the landfill for a short period of time after the ROD for OU2 was issued. However, subsequent to the issuance of the ROD for OU2, the owner decided not to add additional wastes to the unlined portion of the landfill. Since that portion of the landfill had been shut down before the April 9, 1988 applicability date for the new landfill closure regulations set forth in Section 273.234, the closing of the unlined portion of the landfill was subject to the abatement regulations set forth in Section 273.287 of the Pennsylvania Municipal Waste Management Regulations (25 PA. Code § 273.287), applicable to landfills closed prior to April 9, 1988, rather than the closure regulations set forth in Section 273.234. The cap that was constructed over the inactive, unlined portion of the landfill, consisting of a synthetic membrane cap over the top of the landfill and a soil cap over the sides of the landfill, meets the landfill abatement regulations set forth in Section 273.287. In a letter dated November 15, 1995, the landfill owner requested that EPA revise the ROD for OU2 to require that the landfill cap meet the abatement regulations rather than the closure

regulations. In a letter dated January 25, 1996, from James E. Kunkle of PADEP, to Gregory Ham of EPA, PADEP concurred with the proposed revision.

2. Ground Water Treatment Standards

The selected remedy set forth in the ROD for OU2 includes a ground water extraction and treatment system to address the contamination that is migrating from the unlined portion of the landfill. The extraction and treatment system was intended to collect the contaminated ground water, treat it to standards specified in Table 12 of the ROD for OU2, and discharge the treated water to the Lehigh River. The ground water treatment standards set forth in Table 12 were based on the Pennsylvania requirement that contaminated ground water be cleaned up to background levels, i.e., those levels of each contaminant that would be found in the area in the absence of a source of contamination (the Site). For most of the contaminants, the level specified was the minimum detection limit. This requirement resulted in cleanup standards that were more stringent than those that would have been required under federal standards in the absence of this Pennsylvania applicable or relevant and appropriate requirement ("ARAR").

Subsequent to the issuance of the ROD for OU2, the Pennsylvania General Assembly enacted the Pennsylvania Land Recycling and Environmental Remediation Standards Act, No. 1955-2, 35 P.S. §§ 6026.101 et seq. ("Act 2"), which became effective on July 18, 1995. Act 2 allows several alternatives for setting cleanup standards for contaminated ground water. One alternative is to use human health based standards, rather than background levels. In the November 15, 1995 letter to EPA, the owner of the landfill requested that EPA revise the cleanup standards in the ROD for OU2 to reflect standards that would be allowed under Pennsylvania's Act 2. In the letter dated January 25, 1996, from James E. Kunkle of PADEP, to Gregory Ham of EPA, PADEP concurred with this change proposed in the November 15, 1995 letter from the landfill owner. In addition, PADEP asserted in the January 25, 1996 letter that Act 2 is an applicable state ARAR for the ground water remedial action and should be recognized by EPA in the ROD modification document.

Pursuant to Section 300.430(f)(1)(ii)(B)*(1)* and *(2)* of the NCP, 40 C.F.R. § 300.430(f)(1)(ii)(B)*(1)* and *(2)*, EPA is not required to revise ARARs after issuance of a Record of Decision unless (1) such revision is necessary to ensure that the remedy is protective of human health and the environment, or (2) a new component is added to a remedy after issuance of a Record of Decision and such new component must attain requirements that are identified as ARARs at the time an amendment to the Record of

Decision or an explanation of significant differences describing the component is issued. Neither situation applies with respect to the Site. Nonetheless, under appropriate circumstances, EPA can remove a State requirement that had been asserted as an ARAR at the time a Record of Decision was issued but which has subsequently been repealed or modified.

Pennsylvania's Act 2, which became effective on July 18, 1995, modified the Pennsylvania absolute requirement (set forth in 25 PA. Code §§ 264.90 - 264.100, specifically in 25 PA. Code §§ 264.97(i) and (j) and § 264.100(a)(9)), that ground water contaminated with hazardous substances must be cleaned up to the background levels described in that requirement. See Section 908(b) of Act 2. Although PADEP has identified Act 2 as an ARAR for this remedy, EPA has determined that Act 2 does not, on the facts and circumstances of this remedy, impose any requirements more stringent than the federal standards. As a result, the ground water cleanup standards for the Site will be the Federal Maximum Contaminant Levels ("MCLs") set forth in 40 C.F.R. § 141.61 or non-zero Maximum Contaminant Level Goals ("MCLGs") set forth in 40 C.F.R. § 141.50, whichever are more stringent, pursuant to the Safe Drinking Water Act, 42 U.S.C. §§ 300f et seq., which would have been relevant and appropriate requirements at the time the ROD for OU2 was issued in the absence of the Pennsylvania requirement of cleanup to background levels. For 1,1-dichloroethane, there is no MCL or non-zero MCLG. PADEP proposed the use of a cleanup standard that has been developed by the Commonwealth of Pennsylvania for use under its' Act 2 program. This standard was developed using standard EPA risk assessment guidance. After evaluating this proposed standard, EPA believes that it is appropriate as a "to be considered" (TBC), and would be protective of human health and the environment. TBCs can be guidance or policy documents developed by a state that are not in themselves ARARs, but that are used to implement regulations. These can be used as appropriate to ensure protectiveness of a remedy. EPA believes that this is appropriate as a TBC, and therefore is using this cleanup standard for this compound.

Attachment 2 to this ESD lists the original cleanup standards specified in Table 12 of the ROD for OU2, along with the revised cleanup standards that are being approved in this ESD.

3. Discharge of Treated Ground Water

As noted above, the ROD for OU2 called for discharge of the treated ground water to the Lehigh River. In the November 15, 1995 letter to EPA, the landfill owner requested that EPA revise the ROD for OU2 to allow discharge of the treated ground water to other locations, provided that they are approved by PADEP and that the owner obtains a valid discharge permit from PADEP under

the National Pollution Discharge Elimination System ("NPDES") program. In the letter dated January 25, 1996, from James E. Kunkle of PADEP, to Gregory Ham of EPA, PADEP concurred with this proposed revision.

B. Rationale for the Change

EPA has determined that the changes to the ROD for OU2 described above are needed, and that implementation of the revised remedy will be protective of human health and the environment based on the information and facts described below:

1. Performance

The change in the cap design should have a minimal impact on the overall performance of the cap. The top area of the landfill has a multi-layer cap with a synthetic membrane preventing infiltration of precipitation. The sides of the landfill have a vegetated soil cap. The performance of this cap will be monitored, and if it is not successful in maintaining the integrity of the waste material and minimizing infiltration of precipitation into the wastes, PADEP and/or EPA may require the installation of a full cap. Since the change in the cap provides for a cap that is protective of human health and the environment and meets the requirements for a landfill that closed prior to April 9, 1988, EPA has determined that this is an appropriate method for closing the inactive portion of the landfill.

With respect to the ground water cleanup standards, the extraction system is designed to capture contamination migrating from the landfill. No changes are being made to the design of the extraction system as a result of this ESD (although the approved design of the extraction system does differ from the conceptual plan that was presented in the ROD for OU2). The cleanup standards set forth in Table 12 of the ROD for OU2 were based on the instrument detection limit for each contaminant, which is the theoretical lowest amount of a contaminant that can be detected in an aqueous sample. Some of these limits are below the practical quantitation limits, which are the lowest levels that can be detected by laboratory equipment on a normal day-to-day basis, so some of these standards were not achievable. In addition, Pennsylvania's Act 2 modified the absolute requirement that ground water in Pennsylvania be cleaned up to background levels as required by 25 PA. Code §§ 264.90 - 264.100, specifically in 25 PA. Code § 264.97(i) and (j) and §§ 264.100(a)(9).

The description of the selected remedy in Section IX of the ROD for OU2, at page 41, states that "...the aquifer would be remediated until the contaminant levels reach MCLs, non-zero MCLGs, or background [i.e., as specified by 25 PA. Code §§ 264.90 - 264.100, specifically in 25 PA. Code §§ 264.97(i) and (j) and

264.100(a)(9)], whichever are lower." Thus, MCLs or non-zero MCLGs would be the ARAR in instances where the former background level was not. Where no MCL or MCLG exists, a site specific risk based number must be calculated. Although PADEP has identified Act 2 as an ARAR for this remedy, EPA has determined that Act 2 does not, on the facts and circumstances of this remedy, impose any requirements more stringent than the federal standard. Accordingly, with the approval of PADEP, EPA is using MCLs or non-zero MCLGs, whichever are more stringent, as the ground water cleanup standards at the Site, instead of the previous background standards. The MCLs and non-zero MCLGs are protective and do not change the selected remedy. For one compound (1,1-dichloroethane) there is no MCL or non-zero MCLG. For that compound, the cleanup standard will be the concentration developed by PADEP for that compound under its' Act 2 program. This standard is a "to be considered" and not an ARAR, but is protective of human health and the environment and is consistent with the National Contingency Plan.

The final change being made to the selected remedy is to allow discharge of the treated ground water at any location that is approved by PADEP under the NPDES program. The ROD called for discharge of the treated water to the Lehigh River; however, there may be other suitable discharge points closer to the Site that would not require as extensive a discharge line. As long as these alternate locations are approved and meet the applicable discharge criteria under the NPDES permit, there is no reason to require discharge of the treated ground water directly to the Lehigh River.

2. Timing

The timing for the construction of the remedy will not change significantly due to these revisions. The time required to treat the ground water may be reduced slightly due to the change in the cleanup standards, but is still estimated to be approximately thirty years. This change is not expected to be significant, and the revised cleanup standards are still protective of human health. The cap has already been constructed in accordance with the revised requirements discussed above. Therefore, the cap remedy is currently in compliance with these revised requirements. The piping for discharge of the treated ground water has not yet been constructed. By allowing the landfill owner to select any approved location for the discharge, the most efficient location can be chosen, minimizing the time necessary for construction and making the construction cost-effective.

3. Costs

The costs for the remedy will not change significantly due to the changes set forth in this ESD. Some savings will be

realized due to the change in the location of the discharge, the change in the cap design, and the slight shortening of the period of treatment of the ground water.

IV. SUPPORT AGENCY COMMENTS

EPA notified the PADEP of the changes proposed in this ESD in accordance with 40 C.F.R. § 300.435(c)(2). By letter dated December 4, 1996, from William F. McDonell, PADEP Regional Director, to Mr. W. Michael McCabe, EPA Regional Administrator, PADEP informed EPA that it concurs with this ESD. A copy of this letter has been placed in the Administrative Record file.

V. AFFIRMATION OF THE STATUTORY DETERMINATIONS

EPA has determined that the revised remedy complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA believes that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action in accordance with Section 121(d) of CERCLA, 42 U.S.C. § 9621(d), and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

VI. PUBLIC PARTICIPATION

The ESD and the information upon which it is based have been included in the Administrative Record file and the information repository for the Site. The Administrative Record file is available for public review at the locations listed below:

U.S. EPA, Region III
841 Chestnut Building
Philadelphia, PA 19107
Hours: Mon. - Fri., 9:00 a.m. - 4:00 p.m.

Mary Meuser Library
1803 Northampton Street
Easton, PA 18042
610-258-3040'
Hours: Mon. - Fri., 10:00 a.m. - 8:30 p.m.
Sat., 10:00 a.m. - 1:00 p.m.

Questions concerning EPA's action and requests to review the Administrative Record should be directed to:

Gregory Ham
Remedial Project Manager (3HW21)
U.S. EPA - Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 566-3194

12/5/96
Date

Thomas C. Voltaggio, Director
Hazardous Waste Management Division

GROUND WATER CLEANUP STANDARDS
INDUSTRIAL LANE SUPERFUND SITE
(aka Chrin Landfill)

Contaminant	Original Cleanup Level (ROD)	Revised Cleanup Level (ESD)
Vinyl Chloride	0.18	2
Methylene Chloride	0.25	5
1,1 - Dichloroethane	0.07	27
trans - 1,2 - Dichloroethene	0.1	100
cis - 1,2 - Dichloroethene	0.12	70
Chloroform	0.05	100
1,2 - Dichloroethane	0.03	5
1,1,1 - Trichloroethane	0.03	200
Carbon Tetrachloride	0.12	5
1,2 - Dichloropropane	0.04	5
Benzene	0.2	5
Tetrachloroethene	0.03	5
1,4 - Dichlorobenzene	0.3	75
Chlorobenzene	0.2	100
1,1 - Dichloroethene	0.13	7
Trichloroethene	0.03	5

All units in parts per billion.